Review of Article 4F* of Baltimore County Zoning Regulations Regarding Solar Facilities

A Staff Report of the Baltimore County Department of Planning
May 17, 2018

PROJECT DESCRIPTION

This report responds to County Council Bill 37-17 Section 2 directing the Baltimore County Planning Board in consultation and participation with others to study and evaluate the impact of solar facilities in Baltimore County and the effect of the Regulations adopted in Article 4F and to submit the recommendations to the County Council and the County Executive regarding potential changes to the current law. In 2017, the Baltimore County Council approved Bill 37-17, which permits a Solar Facility to be located in certain zones of the County by special exception; provides for certain requirements; provides for security; provides for maintenance, abandonment and removal of a facility; authorizes enforcement; and generally relating to Solar Facilities.

BACKGROUND

The County recognizes solar energy for many positive attributes and seeks to balance the benefits with the potential impact upon the County's land use policies (BCZR 4E101.1). The Maryland Renewable Energy Portfolio Standard set a goal of 2.5% of in-State power to be generated by solar power by 2020 (MD Office of Attorney General). There is a spectrum of solar facilities ranging from residential roof top to community solar to very large utility systems. Bill 37-17 permits limited accessory and commercial systems of a maximum of 2 megawatt (MW)** in size. The Baltimore County Master Plan 2020 recognizes the potential impact of new development on the character of the "countryside" and provides policies to protect those resources while permitting limited development (Baltimore County 2020 Master Plan, Adopted by Baltimore County Council November 15, 2010, Page 91).

STUDY METHODOLOGY

The Department of Planning with concurrence of the Department of Environmental Protection and Sustainability convened two stakeholder meetings to solicit input on the impact of the existing proposed projects and to receive recommendations for any changes that should be made to the regulations.

*The Solar Facilities Article was enacted as Article 4E, however, it was retitled as Article 4F. in the Baltimore County Zoning Regulations.

** Solar power production varies depending on many factors including sunshine, temperature and wind. 1 MW of Solar can power from 164 to 1000 homes depending on those conditions. According to the CEQ report (2016) 2 MW will produce enough energy to provide power to 150 to 200 "typical" homes in Maryland.

The Department invited stakeholders who were identified in Bill 37-17 as well as two additional interest groups. The participants included Baltimore County Commission on Environmental Quality, representatives of the Solar Industry, the Sierra Club's Greater Baltimore Group, the Valleys Planning Council, the Baltimore County Agricultural Land Preservation Advisory Board, the Baltimore County Land Trust Alliance, additional attendees included a representative of the Sparks Glencoe Community Planning Council and Dru Schmidt Perkins, private consultant. The Department of Permits, Approvals and Inspections was consulted on issues relating to landscaping and permitting. The list of attendees is included in Appendix 1.

The first meeting was held on March 26, 2018. The Department of Planning Staff presented a review of the solar facility projects submitted since the adoption of Bill 37-17 and reviewed the provisions of Bill 37-17. The staff requested the attendees to indicate what they believed to be the strengths and weaknesses of the regulation, what opportunities should be considered and questions.

The second meeting was held on April 17, 2018. For that meeting the attendees were requested to submit recommendations for what they would like to see changed, what different outcome they wish to achieve and to explain the reasoning. The full responses both submitted and indicated at the meeting are included in Appendix 2.

Figure 1

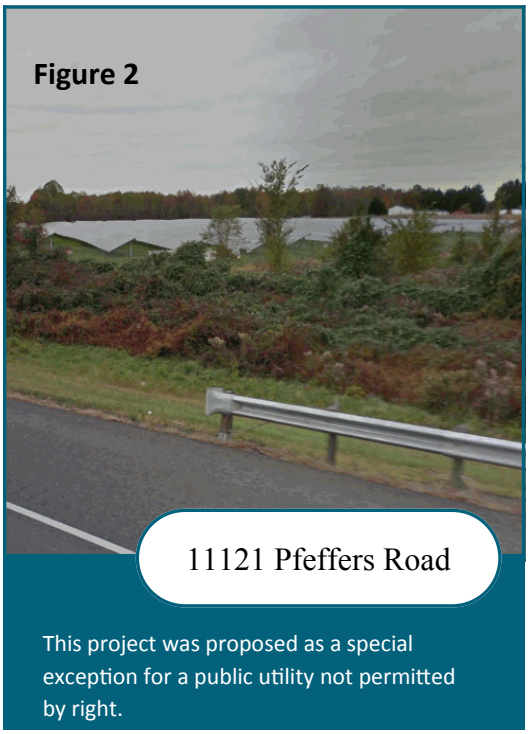
GLEN MEADOWS

The project was allowed prior to the passing of Bill 37-17 as an accessory use. Glen Meadows Retirement Home uses the energy produced on site.

ANALYSIS OF PROJECTS

At the first Stakeholder Meeting on March 26, 2018 a review of solar facility projects were presented. The staff first presented projects that had been approved and built prior to the law and then reviewed projects submitted since the law.

No projects, rural or urban, have been constructed under the standards of Bill 37-17, however, two relevant rural projects have been built prior to the regulations. These include an eleven acre system on 11121 Pfeffers Road and a six acre system at Glen Meadows Retirement Home (Figures 1 & 2). The Pfeffers Road project is visible from I-95. It was approved by Special Exception as a "public utility" prior to a Board of Appeals ruling on another case that this type of use was not a "public utility" (Board of Appeals of Baltimore County Case No. 16-335 SPHX, April 28, 2017). The Glen Arm Meadows solar facility is an accessory use that is permitted by right. The staff also presented some examples of urban projects where solar facilities were constructed on parking



lots and roof tops at County facilities and McCormick Company. These facilities are accessory uses.

Fourteen projects were submitted since the adoption of Bill 37-17 as of March 26, 2018 (first committee meeting). The projects are listed in Appendix 3. Twelve of the projects fall within the Master Plan designated Land Management Areas of Agricultural Priority Preservation (APPA) and Resources Preservation (RPA). Two projects fall with the Rural Residential Area (RRA). The Master Plan policy for APPA is to "Manage land development to limit conflicts with the agricultural industry to safeguard lands through easements" (Baltimore County Master Plan 2020, Page 92). The Master Plan policy for RPAs is to "Preserve valuable cultural, historic, recreational, and environmental resources by limiting development and acquiring land for public benefit" (Baltimore County Master Plan 2020, Page 91). The policy for the RRA is to limit suburban development (Page 93).

The Resource Conservation zoning for the proposed locations include RC 2 (Agriculture), RC 5 (Rural Residential), RC 6 (Resource Conservation and Residential), RC 7 (Resource Preservation) and RC 8 (Environmental Enhancement). Most of the proposals have been on RC 2 zoned land because land suitable for farming is also suitable for solar facilities. The RC 5 zone is also typically suitable with respect to soils, land cover and topography for solar facilities. The RC 6 while it may have suitable land is a more complex zone to develop because of the requirements to predetermine Conservancy Areas. The remaining zones - RC 4, RC 7, and RC 8 - are typically more constrained with steep slopes, streams and forest cover.

The total amount of land proposed to be affected by these 14 solar projects is 849 acres. Of the 849 acres, 507 acres are currently agricultural cropland, while 305 acres are woodland (the remaining acreages can be counted into farmsteads, ponds and other uses). The total special exception areas that will be fenced and solar panels installed is 172 acres. This area will be taken out of areas that are currently cropland as no trees are allowed to be removed for commercial solar. This area though does not take into account other restrictions put on the property such as Forest Buffer and Forest Conservation Easements.

Urban Area Accessory Solar

Companies and Community Colleges of Baltimore County have installed large scale accessory solar panels over paved parking areas.

An important aspect of Bill 37-17 like the 2

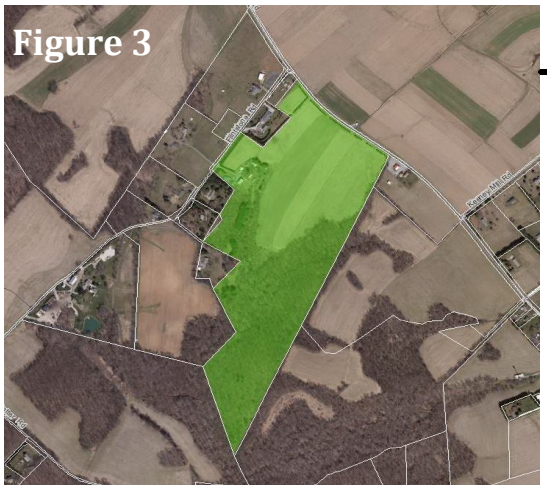
MW limitation is the limit of 10 projects per councilmanic district. Of the 14 projects reviewed the number by councilmanic district is shown in Table 1. The amount of rural and urban zoning per district is also shown in the Table 1.

Table 1: Proposed Solar Projects by Councilmanic Districts

District	Solar Projects	Total Area	Total Acreage of Rural Zoning	Total Acreage of Urban Zoning
1	0	21,866,020	3,935,747	17,930,273
2	0	39,688,086	19,561,051	20,127,035
3	8	199,180,240	182,537,840	16,642,400
4	4	41,472,098	26,891,846	14,580,252
5	2	27,724,396	11,141,476	16,582,920
6	0	31,460,864	8,701,675	22,759,188
7	0	27,408,897	5,556,351	21,852.546
	Totals:	388,800,600	258,325,986	130,474,614

As an illustration of proposed projects is the proposed solar facility for 20450 Middletown Road, Freeland. The proposed details and layout are provided below in Figure 3. The project is split zoned RC 2, RC 4, and RC 8. It is located in an APPA. It is adjacent to a Baltimore County Agricultural Preservation Easement. Middletown Road is a scenic road. The requested Special Exception Area was 19 acres. The project is seeking approval as a Community Solar Project that would produce 2 MW of power.

Figure 3



20450 Middletown Rd
PAI: 2017-0108X

- **The project is located in a property split zoned RC 2, RC 4, and RC 8.**
- **The entire property is located in an Agricultural Priority Preservation Area.**
- **Middletown Rd is a Baltimore County designated scenic route.**
- **The property is 70.979 acres. 39.979 acres are wooded and 28 acres is cropland. The special exception area is 19 acres of the cropland**

SOLAR FACILITY LAWS IN MARYLAND JURISDICTIONS

Review of Solar Facility laws in Maryland counties has yielded many commonalities in regulation components (Appendix 4). Most counties have established regulations to allow ground mounted, solar facilities to be primarily used for commercial use (i.e. selling of the energy to a utility company/power grid off site). Additionally, most counties have allowed for such facilities to be located in their rural and/or agricultural zones. Practically all counties require Solar Facilities to go through some Special Exception or Conditional approval process. Siting standards such

as setbacks, screening and visual impact are recurring components which most counties define specifically in their laws. Like Baltimore County, most counties also have requirements for maintenance and abandonment so that safety issues are addressed (fencing, access, glare, etc.) and equipment is removed if the operation ceases.

There are also some distinguished differences in approach to allowing solar facilities in certain counties. While Montgomery County has essentially limited solar facilities to be only an accessory use and Frederick County has prohibited commercial solar facilities on prime farmland soils, Howard County was found to be the only county who allowed for commercial solar projects on land which is included in agricultural easements and land preservation programs. While such projects in Howard County are subject to review by entities such as the county's Agricultural Land Preservation board, this unique allowance reveals the variations which exist in regards to perspectives and policy priorities of local governments in regulating solar facilities.

A comparison of solar facility regulations for the counties within the Baltimore Region was conducted (Table 2). Of note is that both Harford and Carroll counties do not permit commercial solar facilities in their rural areas and Anne Arundel passed a moratorium on commercial solar facilities to study the impact. Howard County like Baltimore County permits commercial solar in the rural areas but also permits solar facilities on their county easements. Baltimore County does not permit commercial solar on easements.

Statewide legislation has also responded to large-scale solar demand. Most notably, the passage of HB1350 in 2017 directed the Public Service Commission to consider a county's comprehensive plan when considering a Certificate of Public Convenience and Necessity application (a permit granted by the state for large-scale power generating projects). Additionally, HB1591 was introduced in the 2018 legislative session to provide certain siting standards including limitations in certain zones for solar facilities. However, such legislation was defeated in committee. The debate over state land use controls versus local land use controls focuses on this issue. The implementation of solar regulations in Maryland counties in recent year's highlights a response to growing demand for large-scale solar projects as the state continues to pursue its RPS goals.

CEQ REPORT AND OTHER STUDIES

The Baltimore County Commission on Environmental Quality produced a report in 2016 titled: Commercial Solar Collection Facilities on Agricultural Land in Baltimore County: Recommendations to the Baltimore County Council From CEQ. The report was commissioned in response to the questions and concerns to Bill 89-16. The study recommended numerous specific environmental and land use reviews including soil, ground water, surface water, biodiversity of wildlife, plants and forests and agricultural lands.

During the course of the stakeholder participation another study, Clean Energy, Green Communities. A Guide to Siting Renewable Energy in Hudson Valley was discussed. This study completed in 2018 seeks to provide a guide framework for stakeholders to "promoting accelerated renewable energy development while simultaneously preserving important natural resources" and the scenic countryside.

Other reports and web page materials were reviewed. In particular various sources were viewed regarding the Maryland Community Energy Pilot Program.

Table 2

Comparison of Solar Regulations in the Baltimore Region

County	Regulation Components							
	Location (Zoning) Color Code:(= Rural Zones =Urban/Non-Rural Zones)	**Use Status**	**Size**	**Setback Requirement**	**Quantity/ Size Limitations**	**Screening Requirment**	**Height Maximum**	**Highlights**
Anne Arundel	• Rural Agriculture (RA) Districts (for commercial use) • Industrial zones (commercial use)	**Conditional**	Maximum of 80% of gross area	Not specified; specific to setbacks of the zone.	**N**	**Y**	Not Specified; specific to zone.	In Dec. 2017, the county issues an 8-month moratorium on industrial "solar parks" in order to assess and update regulations.
Baltimore	• Resource Conservation Zones (RC2-RC8) (commercial use) • Business & Industrial zones (commercial use)	**Special Exception**	Contingent on energy output of <=2 MW	50'	**Y (See "Highlights" column)**	**Y**	20'	**Limits solar facilities to 10 per council district.** Facilities not permitted on easements (Agriculture, Envrionmental) or on historic properties.
Carroll	• Commercial (B-NR) & Industrial (I-G, I-R) zones (for commercial use)	**Conditional**	Not Specified; specific to zone.	Range from 100' to 400' depending on zoning and if facility is adjacent to a residential property.	**N**	Not Specified: Code states, system cannot unreasonably interfere with view ofscenic road, historic resources, etc.)	25'	Only allows solar as accessory use in agricultural areas. Copy of conditional approval from local utility required at time of permit application.
Harford	• General Industrial (GI) (commercial use)	**Permitted**	Not Specified; specific to zone.	Not Specified; specific to zone.	**N**	**Y**	Not Specified; specific to zone.	County only allows commercial solar facilities on industrial zoned land.
Howard	• Rural Conservation (RC) & Rural Residential (RR) (commercial use)	**Conditional**	• 10 acres (minimum) • 75 acres (maximum)	50'	**Y** (75 acre parcel maximum)	**Y**	20'	County allows conditional use of commercial solar facilities on **easements (Agricultural Land Preservation, Environmental, etc.)**

PARTICIPATION AND INPUT OF STAKEHOLDERS

Two Stakeholder meetings were convened. The first was held on March 26, 2018 and the second on April 17, 29018. The meetings were attended by representatives of different interest groups as indicated above.

Staff requested participants at the March 26, 2018 to indicate from their interest group's perspective the strengths, weaknesses, and opportunities with respect to solar facilities and the existing regulations. The comments included:

- The Stakeholders responded that strengths included that unlike other counties, the landscape requirements had more flexibility. The abandonment and removal requirements were also cited as being strong.

- The main weaknesses included issues surrounding the limit of 10 projects per councilmanic district, potential impact on scenic routes, potential impact on farming, use of toxic chemicals for maintenance, and creating barriers (fencing) to wildlife passage.

- The opportunities mentioned include potential adoption of pollinator friendly programs, community solar, use of incentives for brownfields over greenfields, and opportunities for solar on lands in commercial, high density or BGE right-of-ways.

The second meeting was held on April 17, 2018. At that meeting the participants discussed their recommendations for changes to the existing regulations. The full list of recommendations is provided in Appendix 2. A list of selected recommendations is provided below:

- **No Solar Facilities on RC 2 Zoned Land, Rural Legacy Areas or Scenic Roads** - Prohibit commercial scale solar facilities on RC 2 zoned land, Rural Legacy Areas, and Scenic Routes. Majority of proposals submitted so far have been on RC 2 and on Scenic Routes.
- **Adopt Siting Standards to Limit Facilities to "Least Conflict Lands."** Develop a methodology to be able to analyze where siting of Solar Facilities will not impact agricultural and scenic lands.
- **Incentivize locating solar facilities on** - brownfields, commercial locations and new developments. These lands should be utilized for solar prior to developing farmland that was set aside for farmland.
- **Set a County Goal for Solar** – Determine a County goal to meet the State goal.
- **Do Not Limit the Amount of Solar Facilities** – Solar industry provides jobs and solar reduces the use of fossil fuels and should not be limited particularly in the early stages so that people can see it and accept the technology.
- **Keep/Remove/Increase the Cap of 10 Projects per Councilmanic District** – Full range of opinions on the cap of 10 projects. Some advocated for removing cap or at least removing it from the 3rd District since it is a

bigger district with more RC 2 land. Others advocated to keep the cap un til projects are produced and the impacts can be more fully determined. It was also advocated for that the cap should remain until a comprehensive set of siting standards are developed to protect farmland and scenic roads.

- **County Should Develop Solar on Brownfields** – Industry indicated that the government needs to take the lead on development of brownfields and that it would provide for more facilities.
- **Departments of Environmental Protection and Sustainability and Planning Should Work More Closely** - Considerable discussion on the environmental impact of maintaining the solar facilities, impact on wildlife and potential for pollinator habitat.
- **Amend the Law to Change the Cap to a Limit of 20 MW per Councilmanic District** – Uncertainty in the capacity of the transmission and smaller projects may result in utilization of less than the maximum potential of 20 MW for 10 projects of 2 MW size. Important to produce as much solar energy as possible.
- **Change/Do Not Change the Cutoff for Projects at Permit** – As written the law registers projects once they have received a permit. This means that more projects may still go through the Special Exception process than are allowed to be built.

STAFF IDENTIFICATION OF ISSUES & CHALLENGES

- **No Solar Facilities Constructed under law** - Currently there have been no solar facilities constructed since passage of Bill 37-17 as projects have been appealed or are currently still in the development process. The lack of constructed projects presents a practical challenge of analyzing how the law's components impacts "on-the-ground" outcomes (i.e Screening, Maintenance, etc.).

- **Competition for Agricultural Land** - With leases which can occupy 10 to 20 years, certain facilities could not only take land out of production for agriculture, but also be restrictive to other land uses which may become in demand during such period. (Solar facilities could be beneficial in preventing further subdivision of land but may block an agricultural use if co-location options are not feasible).

- **Impact on Scenic Resources** – Most of the submittals to date have been on county and in some cases state Scenic Routes. Despite considerable attention on landscaping results are either to obscure the view or to mitigate the impact on the scenic viewshed.

- **Environmental Impacts/Opportunities** – Solar facilities provide the opportunity for enhanced wildlife and pollinator habitats benefits. County regulations require the imposition of environmental regulations to protect water quality and forests on the sites. More creative opportunities may ex-

ist for additional wildlife/pollinator on the property that could also have a positive impact on the visual appearance of the facilities.

- **Dependency on BGE Community Solar Pilot Program**- Most of the proposed solar projects in the county are also applicants to the state's Community Solar Pilot program. Approval into the Community Solar program may be a significant or dependent factor in such projects becoming a reality, in addition to seeking county approval. Additionally, it was revealed that projects to be considered for years 2 & 3 of the Community Solar program must be submitted this year (June 2018), which could have implications on the timing and how many projects are proposed in the county in the coming years.
- **Unknown Transmission Capacity**- Available capacity in local transmission lines was noted to be a key factor in the viability of solar projects. There is limited information available to determine what areas have available capacities for solar projects, and capacity availability is usually unknown until an energy project applies for approval with BGE. Solar companies may apply for the maximum permitted megawatt output, but actual approval may grant less megawatt output than permitted based on system capacity.
- **Regional Allocation of Solar Facilities** - Carroll and Harford counties currently don't allow commercial solar facilities on their agricultural and rural zoned land, and Anne Arundel county currently has a moratorium on commercial solar projects, appearing that Baltimore County is receiving a disproportionate number of projects within the region.
- **Master Plan Guidance/Potential Conflicts**- *Master Plan 2020* does not give direction on a comprehensive strategy for renewable energy or its siting. While the Master Plan does speak about sustainable housing and efforts to make housing more energy efficient, there is no mention of a renewable energy policy in regards to solar energy. Meanwhile, agricultural land preservation is a dominant theme which is discussed throughout the master plan.

STAFF RECOMMENDATIONS

1. **Seek stakeholder input into developing goals for solar facilities in the County to be included in the 2030 Master Plan.** The goals should include use and development of solar facilities on new development and on existing commercial and industrial projects as well as the rural areas. The goal should take into consideration State and Federal goals.

2. **Maintain the limit of 10 projects per councilmanic district.** The number of projects in the 3rd is approaching the limit, however, the limitations may encourage development of solar facilities for commercial and industrial lands.
3. **Encourage the State to incentivize the development of solar on greyfields and brownfields.** Much like the State has incentivized the development of community solar projects which utilize greenfields, the State should incentivize the development of projects on greyfields and brownfields.
4. **Investigate whether some additional conditions are warranted to reduce the impact on farms.** There is the potential for the loss of a considerable amount of farms which previously had been protected from loss to other uses such as golf courses and development.
5. **Investigate if changes to the approval process could reduce the number of appeals.** The majority of projects that have received Special Exception approval have been appealed. Look at models such as the Tower Review Committee procedure or other processes that might result in more input and fewer appeals.
6. **Plan to review the law five years from date of its passage so as to review built projects, assess impacts, and make changes as warranted.**

Appendix 1

Name	Representing
Steve Myer	Baltimore County Agriculture Land Preservation Advisory Board
Renee Hamidi	Baltimore County Land Trust Alliance
Lois Jacobs	Baltimore County Commission on Environmental Quality
Patricia Farr	Baltimore County Environmental Protection and Sustainability
Kelsey Crane	Forefront Power
Brian Maliszweski	Forefront Power
Whitney Johnson	Forefront Power
Marni Carroll	One Energy Renewables
Kate Larkin	One Energy Renewables
Bruce Wilson	SGC Power
Kevin Kriescher	Sierra Club
David Smedick	Sierra Club
Lynne Jones	Sparks Glencoe Community Association
Salar Naini	Turning Point Energy
Alex Mendelson	Turning Point Energy
Teresa Moore	Valleys Planning Council
Megan Billingsley	Valleys Planning Council
Dru Schmidt Perkins	Private consultant

Appendix 2

STAKEHOLDER	REASON TO CHANGE EXISTING LAW	RECOMMENDED CHANGE
Valleys Planning Council	Protect Farmland, investments in preservation, consistency with Master Plan	Prohibit Utility Scale Solar on RC 2 zoned land, Rural Legacy Areas, Scenic routes (are you referring to utility projects or these community solar projects?) Adopt siting standards to limit facilities to "least-conflict lands" as determined by Scenic Hudson Siting Guidelines and forth-coming Abell Foundation study. Keep the cap at 10 per district
	Steer Solar to appropriate sites	Explore permitting by right on "least-conflict lands" Require solar energy production in new res-idential, commercial and industrial develop- Require solar energy firms to evaluate suita-bility of brownfield sites determined to be
	Determine goal	Determine existing amount of solar energy production and determine the potential amount of production from private, public and utility-scale sources.
	Clarify Removal Standards to as-sure taxpayers, communities and landowners will not have to pay for removal	Define "abandoned" and "remove" special exception right Set minimum bond amount to assure re-moval

Appendix 2

STAKEHOLDER	REASON TO CHANGE EXISTING LAW	RECOMMENDED CHANGE
Manor Conservancy/ BCLTA	State and County committed to preserving land, rural lifestyle, tra-	Prohibit large-scale commercial solar projects on RC 2 land
		Reduce the number of projects permitted per District
		Prohibit clearing of forest
		Prohibit locating along stream, river corridors or steep slopes
		Prohibit locating on prime soils if not able to prohibit from RC 2 land
		Prohibit removal of topsoil or existing vegetation
		Prohibit locating along wildlife corridors or migratory flyways
		Limit length of access roads
	Remove array at end of useful life	Require sufficient bond
	Lease should be public information	Require recordation of the lease

STAKEHOLDER	REASON TO CHANGE EXISTING LAW	RECOMMENDED CHANGE
Forefront Power, LLC	To ensure all residents benefit from solar need to be able to build more	Eliminate cap of 10 in 3rd Council District
	Benefit low & medium income residents through having more pro-	Permit more projects
	Create jobs by permitting more projects	
	Improve grid resilience by having more facilities	

Appendix 2

STAKEHOLDER	REASON TO CHANGE EXISTING LAW	RECOMMENDED CHANGE
Council Environmental Quality	Review of projects after completed/operational	Five year review of impact of bill
	More attention to natural wildlife corridors and access for small animals and plantings for pollinators	Work more closely with EPS for better environmental outcomes

STAKEHOLDER	REASON TO CHANGE EXISTING LAW	RECOMMENDED CHANGE
Sierra Club	The existence of caps may be deterring the solar industry from investing in Maryland	Remove the size limit (is this in reference to the 2 MW or acreage?)
		Remove the cap on number of projects per Council District In the alternative increase the size and number of projects
	Steer solar development to rooftops, brownfields and other previously developed lands	Update the law to provide incentives
	Establish pollinator-friendly habitats on site	Add language to the law to encourage
	Submitted projects are experiencing delays and hurdles in trying to meet the deadlines of the state's community solar pilot program	County should assist so solar developers are able to meet the community solar pilot program deadline

Appendix 2

STAKEHOLDER	REASON TO CHANGE EXISTING LAW	RECOMMENDED CHANGE
Cypress Creek Renewables; One Energy Renewables; Turning Point Energy	Bill limits maximum area for solar projects to 2 Megawatts, however, County Special Exception decisions have limited the acreage of the Special Exception Area. The applicants see these limitations as not taking into account siting issues such as topography, drainage, etc.	Amend the law to set a 20 acre cap for two MW
	A cap is not necessary because (1) the Community Solar Pilot Program is a 3-year pilot, (2) maximum aggtregrate MWs allowed in program per utility district, and (3) available electrical capacity on the existing	Remove the cap of 10 projects per Council District
	The cap is not proportion to the size of the County Council District. Specifically, the 3rd Council District is 4.5 times larger than next largest Council District.	Increase the number of projects permitted in the 3rd Council District to 20
	Solar companies invest thousands of dollars in the preparation and submittal of projects and should not have to operate under the uncertainty of being denied at the end of the process	Clarify at what stage the 10 project limit is reached.
	Projects are low-impact and under abbreviated timetables	Be classified as Limited Exemption not requiring a community input meeting or hearing officer hearing
	Maryland Legislature has found solar to be a beneficial use when co-located with pollinator friendly. Solar is a non-permanent use that provides benefits to the economy.	Change purposes section in law to indicate that solar facilities are a beneficial use of agricultural lands

Appendix 3

Property	Zoning	LMA	Scenic Road	Acres of Forest	Acres of Farmland	Acres of Other	Total Acreage	Special Exception Area
Dist. 3								
14503 Green Rd	RC 2	APPA	N	82.38	136	8.11	226.49	13.66
1139 Monkton Rd	RC 2, RC 4, RC 7	RPA	Y	53.491	41	4	98.491	19.08
19735 Graystone Rd	RC 2	APPA	Y	1.8	47.364	1.375	50.539	6.5
632 Freeland Rd	RC 2	APPA	Y	28.08	67.75	3.63	99.46	18.929
15637 York Rd	RC 7	RPA	Y	7.13	15.242	8.36	30.732	9
5298 Frye Rd	RC 2	APPA	Y	3.36	16.329	0	19.689	12.5
15700 Hanover Pike	RC 2	APPA	Y	0	6.837	0	6.837	6.837
20450 Middletown Rd	RC 2, RC 4, RC 8	APPA	Y	39.979	28	3	70.979	19
				216.22	**358.522**	**28.475**	**603.217**	**105.506**
Dist. 4								
2316 Ridge Road	RC 6	RPA	Y	22.5	70	0.185	92.685	8.68
9155 Old Court Rd	RC 2	RPA	Y	0	16.757	-0.007	16.75	9.81
9203 Dogwood Rd	RC 2	APPA	N	16	9	0.268	25.268	2.09
10021 Old Court Rd	RC 2	APPA	Y	39.886	22.5	0	62.386	20
				78.386	**118.257**	**0.446**	**197.089**	**40.58**
Dist . 5								
11956 Philadelphia Rd	RC 5	RRA	N	2.7	15.149	5.701	23.55	16
10790 Raphel Rd	RC 5	RRA	N	8.17	15.7	1.23	25.1	10.5
				10.87	**30.849**	**6.931**	**48.65**	**26.5**
				305.476	**507.628**	**35.852**	**848.956**	**172.586**

Appendix 4

Comparison of Solar Regulations in Maryland Counties

County*	Regulation Components							
	Location (Zoning) Color Code:(= Rural Zones =Urban/Non-Rural Zones)	Use Status	Size	Setback Requirement	Quantity/ Size Limitations	Screening Requirment	Height Maximum	Highlights
Allegany	• Agriculture (A) & Conservation (C) Districts (commercial use)	**Special Exception**	Not Specified; specific to zone.	Minimum of 30'	**N**	**Y** Requires screening from all County or State ROW's	Not Specified; specific to zone.	Requires final land reclamation plan to be put into effect after anticipated useful life or abandonment or termination of the project.
Anne Arundel	• Rural Agriculture (RA) Districts (for commercial use) • **Industrial zones (commercial use)**	**Conditional**	Maximum of 80% of gross area	Not specified; specific to setbacks of the zone.	**N**	**Y** Requires screening from roadways and adjoining residential uses	Not Specified; specific to zone.	In Dec. 2017, the county issues an 8-month moratorium on industrial "solar parks" in order to assess and update regulations.
Baltimore	• Resource Conservation Zones (RC2-RC8) (commercial use) • **Business & Industrial zones (commercial use)**	**Special Exception**	Contingent on energy output of <=2 MW	50'	**Y (See "Highlights" column)**	**Y** Requires screening of state and local scenic routes and scenic views	20'	**Limits solar facilities to 10 per council district.** Facilities not permitted on land dedicated for easements (Agriculture, Envrionmental) or on historic properties.
Calvert	• Rural and Farm (FFD & RCD), (for commercial use) • **Employment Center (EC) Zones (for commercial use)**	• **Special Exception** (For commercial solar use) • **Conditional** (For accessory use)	Not Specified; specific to zone.	Not Specified; specific to zone.	**N**	**Y**	Not Specified; specific to zone.	Current draft of the county's comprehensive plan includes objectives to develop land use policies for solar energy and offer farmers opportunities to lease land for solar farms.
Caroline	• Rural (R) Zone • **General Commercial (C-2), & Light Industrial (I-2) zones (for commercial use)**	**Special Exception**	Minimum 10 acres (up to 2 MW for small scale systems)	25'	**Y (See "Highlights" column)**	**Y** Where appropriate, pollinator habitats may be used in lieu of screening	15'	**Limits total land use for commercial solar to a total of 3,000 acres countywide.**
Carroll	• **Commercial (B-NR) & Industrial (I-G, I-R) zones (for commercial use)**	**Conditional**	Not Specified; specific to zone.	Range from 100' to 400' depending on zoning and if facility is adjacent to a residential property.	**N**	Not Specified: Code states, system cannot unreasonably interfere with the view scenic road, historic resources, etc.)	25'	Only allows solar as accessory use in agricultural areas. Copy of conditional approval from local utility required at time of permit application.
Cecil	• Agricultural Zones (NAR) & (SAR) zones (for commercial use) • **Light & Heavy Industrial zones**	• **Permitted (M2 zone)** • **Special Exception with Conditions** (NAR & SAR zones)	Not Specified; specific to zone.	Not Specified; specific to zone.	**N**	Not Specified	Not Specified; specific to zone.	Approval was recently given by the state Public Service Commission (PSC) to allow a 9 MW solar facility with a long-term pollinator habitat near Chesapeake City.
Charles	• All zones (commercial & accessory use)	**Special Exception**	Not Specified; specific to zone.	50'	**N**	**Y**	25'	County currently has 2 applications before the PSC including a request to build a 32 MW facility on 249 acres of "agriculture conservation" zoned land. Facility proposed to produce nearly 50% electricity for Georgetown University.
Dorchester	• Agricultural & Resource zones (commercial use) • **Business & Industrial zones (commercial use)**	**Special Exception**	Minimum 25 acres	Not Specified: subject to standards of zone.	**N**	**Y** To not unreasonably interfere with views of chesapeake bay, scenic views, or historic resources.	50'	County currently has 2 applications before PSC which propose facilities of 45.9 MW on 289 acres and 50 MW on 330 acres.
Frederick	• Agriculutral Zone (See "Highlights" column) • **Industrial Zones (LI) & (GI) (commercial use)**	**Special Exception**	Minimum lot area of 0.45 to 1 acre in industrial zones	50'	**Y (See "Highlights" column)**	**Y**	30'	**County created a floating zone for large commercial solar arrays that can be applied to agricultural properties from 10 to 750 acres.** Solar panels can cover only 10 percent of the tillable acres of the parcel or multiple contiguous parcels, up to 75 acres. Cannot be located on a property which is under a Ag Pres easement, in a Priority Preservation Area, or Rural Legacy area.
Harford	• **General Industrial (GI) (commercial use)**	**Permitted**	Not Specified; specific to zone.	Not Specified; specific to zone.	**N**	**Y**	Not Specified; specific to zone.	County only allows commercial solar facilities on industrial zoned land.
Howard	• Rural Conservation (RC) & Rural Residential (RR) (commercial use)	**Conditional**	• 10 acres (minimum) • 75 acres (maximum)	50'	**Y** (75 acre parcel maximum)	**Y**	20'	County allows conditional use of commercial solar facilities on **easements (Agricultural Land Preservation, Environmental, etc.)**
Kent	• Agricultural & Resource zones (AZ), (RC) (commercial use) •**Commercial, Industrial & Employ. zones (commercial use)**	**Special Exception**	5 acres (maximum)	Not Specified; specific to zone.	**N**	**Y**	38'	In 2017, an application was denied for a 60 MW, 370 acre solar project, partly due to conflict with the county's ag land use policies. The case did not demonstrate that a public necessity for the project outweighed local opposition. However, the decision reconfirmed the authority of the PSC to **preempt local zoning** if a project meets the standard of public necessity.
Montgomery	• Agricultural & Rural Residential zones (only accessory use) • **Commercial, Residential & Employment zones (only accessory use)**	**Limited Use**	Not Specified	50'	**N**	**Y**	20'	In addition to be only used as an accessory use throughout the county, the solar energy system can only produce 120% of on-site energy consumption.
Queen Anne's	• Agricultural zones (AG) & (CS) (commercial use)	**Conditional**	Not Specified; specific to zone.	25'	**N**	**Y**	Not Specified; specific to zone.	County recently amended its zoning ordinance to establish the "Utility Scale Solar Array District" in which commercial solar is conditionally permitted on sites within a two-mile radius on either side of the electric transmission lines with a capacity equal to or greater than 69 kV.
St. Mary's	• Rural (RPD) & Residential zones (RL-T), (RL) (for commercial use) • **Office (OBK) & Industrial (I) zones (commercial use)**	**Conditional**	Not Specified; specific to zone.	Not Specified; specific to zone.	**N**	**Y**	Not Specified; specific to zone.	Regulations do not speak specifically to solar facilities but rather classifies use as either a major or minor utility.
Talbot	• All zones (as commercial use) including the Agricultural Conservation & Rural Residential zones, but excludes Rural Conservation zone.	**Special Exception**	For large-scale systems, 10 acres or produce energy >= 2 MW	150'	**Y (See "Highlights" column)**	**Y**	16'	**Solar facilities can compromise only 0.5% of total land area in Agricultural zones or not more than 726 acres.** Regulations also make distinction between small, medium, and large scale in terms of scope of use and approval requirements. County requires mitigation through a Reservation of Development Rights Agreement reserving development rights on an equivalent area of land in other rural zones.
Washington	• Agricultural & Conservation zones (commercial use) • **Industrial (IM) zones (commercial use)**	**Special Exception**	20 acres	25'	**N**	**Y**	Not Specified; specific to zone.	Prevents solar projects on Priority Preservation Areas, Rural Legacy Areas, and Antietam Overlay zones. Audible sound shall not exceed 55 DBA. Requires that the solar facility not cause disruptive electromagnetic interference to off-site telecommunications or similar systems.
Wicomico	• Allowed in most zones including **Agricultural, Residential, Commercial, and Industrial Zones**	**Special Exception**	Not Specified; specific to zone.	Not Specified; specific to zone.	**N**	Not Specified	Not Specified; specific to zone.	Regulations do not speak specifically to solar facilities other than the fact that a "Privately Owned and Operated Utility" appears in the county's zoning ordinance as a special exception in most zones.
Worchester	• Agricultural (A-1 & A-2) (commercial use) • **Village, Commercial & Industrial zones (commercial use)**	**Special Exception**	50 acres (minimum) for Utility scale systems	50'	**N**	**Y**	Not Specified; specific to zone.	Provides a distinguishing between small (<= 5kW), medium (between 5kW and 200kW), large (200kW to 2.5 MW), & utility (>2.5 MW) "Solar Energy Systems." Small and medium scale systems are for on-site accessory use. Utility scale systems have the principal purposes of providing electrical energy for sale.

Note: No comparable regulations found for Baltimore City, Garrett, Somerset, & Prince George's counties pertaining to commercial solar use on agricultural lands.

**Most counties allow solar as an accesory use in most zones.*